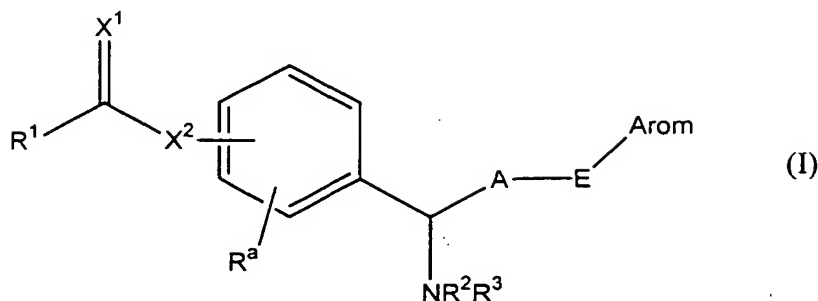


## WHAT IS CLAIMED IS:

1. A compound of formula (I):



[wherein  $R^1$  represents a  $C_1$ - $C_6$  alkyl group, an amino group, a ( $C_1$ - $C_6$  alkyl)amino group, a di( $C_1$ - $C_6$  alkyl)amino group or a nitrogen-containing saturated heterocyclic group;

$R^2$  and  $R^3$  are the same or different and represent a hydrogen atom or a  $C_1$ - $C_6$  alkyl group;

Arom represents an aryl group, an aryl group substituted at from 1 to 5 positions by substituent(s) which are the same or different selected from the substituent group  $\alpha$ , a heteroaryl group, or a heteroaryl group substituted at from 1 to 3 positions by substituent(s) which are the same or different selected from the substituent group  $\alpha$ ;

A represents a  $C_1$ - $C_6$  alkylene group;

$R^a$  represents a hydrogen atom, a  $C_1$ - $C_6$  alkyl group or a  $C_2$ - $C_6$  alkenyl group or, together with  $R^2$ , represents a  $C_1$ - $C_3$  alkylene group (in the case of  $C_2$ - $C_3$ , it may contain a double bond);

E represents a single bond, an oxygen atom, a sulfur atom or a group of the formula:  $-NR^4-$  (wherein  $R^4$  represents a hydrogen atom or a  $C_1$ - $C_7$  alkanoyl group);

$X^1$  and  $X^2$  are the same or different and represent an oxygen atom or a sulfur atom]  
or a pharmacologically acceptable salt or ester thereof.

<Substituent group  $\alpha$ >

halogen atom,  $C_1$ - $C_6$  alkyl group, halogeno  $C_1$ - $C_6$  alkyl group,  $C_1$ - $C_6$  alkoxy group,  $C_1$ - $C_6$  alkylthio group,  $C_1$ - $C_3$  alkylenedioxy

group, C<sub>1</sub>-C<sub>7</sub> alkanoyl group, C<sub>2</sub>-C<sub>7</sub> alkyloxycarbonyl group, amino group, C<sub>1</sub>-C<sub>7</sub> alkanoylamino group, hydroxyl group, mercapto group, cyano group, nitro group and carboxyl group.

2. A compound or pharmacologically acceptable salt or ester thereof according to Claim 1, wherein the group of formula: R<sup>1</sup>-C(=X<sup>1</sup>)- is a carbamoyl group, a (C<sub>1</sub>-C<sub>4</sub> alkyl)carbamoyl group, a di(C<sub>1</sub>-C<sub>4</sub> alkyl)carbamoyl group, a thiocarbamoyl group, a (C<sub>1</sub>-C<sub>4</sub> alkyl)thiocarbamoyl group or a di(C<sub>1</sub>-C<sub>4</sub> alkyl)thiocarbamoyl group.

3. A compound or pharmacologically acceptable salt or ester thereof according to Claim 1, wherein the group of formula: R<sup>1</sup>-C(=X<sup>1</sup>)- is a (C<sub>1</sub>-C<sub>4</sub> alkyl)carbamoyl group, a di(C<sub>1</sub>-C<sub>4</sub> alkyl)carbamoyl group, a (C<sub>1</sub>-C<sub>4</sub> alkyl)thiocarbamoyl group or a di(C<sub>1</sub>-C<sub>4</sub> alkyl)thiocarbamoyl group.

4. A compound or pharmacologically acceptable salt or ester thereof according to Claim 1, wherein the group of formula: R<sup>1</sup>-C(=X<sup>1</sup>)- is a (C<sub>1</sub>-C<sub>4</sub> alkyl)carbamoyl group or a di(C<sub>1</sub>-C<sub>4</sub> alkyl)carbamoyl group.

5. A compound or pharmacologically acceptable salt or ester thereof according to Claim 1, wherein the group of formula: R<sup>1</sup>-C(=X<sup>1</sup>)- is a di(C<sub>1</sub>-C<sub>4</sub> alkyl)carbamoyl group.

6. A compound or pharmacologically acceptable salt or ester thereof according to Claim 1, wherein the group of formula: R<sup>1</sup>-C(=X<sup>1</sup>)- is a dimethylcarbamoyl group or an ethylmethylcarbamoyl group.

7. A compound or pharmacologically acceptable salt or ester thereof according to Claim 1, wherein the group of formula: R<sup>1</sup>-C(=X<sup>1</sup>)- is a dimethylcarbamoyl group,

8. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 7, wherein R<sup>3</sup> is a

C<sub>1</sub>-C<sub>6</sub> alkyl group.

9. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 7, wherein R<sup>3</sup> is a methyl group or an ethyl group.

10. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 7, wherein R<sup>3</sup> is a methyl group.

11. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 10, wherein R<sup>2</sup> is a hydrogen atom or a C<sub>1</sub>-C<sub>6</sub> alkyl group.

12. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 10, wherein R<sup>2</sup> is a hydrogen atom, a methyl group or an ethyl group.

13. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 10, wherein R<sup>2</sup> is a hydrogen atom or a methyl group.

14. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 10, wherein R<sup>a</sup>, together with R<sup>2</sup>, is a C<sub>1</sub>-C<sub>3</sub> alkylene group which may contain a double bond.

15. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 10, wherein R<sup>a</sup>, together with R<sup>2</sup>, is a C<sub>2</sub>-C<sub>3</sub> alkylene group which may contain a double bond.

16. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 10, wherein R<sup>a</sup>, together with R<sup>2</sup>, is a C<sub>3</sub> alkylene group which contains a double bond.

17. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 13, wherein R<sup>a</sup> is a hydrogen atom or a methyl group.

18. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 13, wherein R<sup>a</sup> is a hydrogen atom.

19. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 18, wherein Arom is a phenyl group, a phenyl group substituted at from 1 to 3 positions by substituent(s) which may be the same or different selected from the substituent group  $\alpha$ , a pyridyl group, or a pyridyl group substituted at one position by a substituent selected from the substituent group  $\alpha$ ;

<Substituent group  $\alpha$ >

halogen atom, C<sub>1</sub>-C<sub>6</sub> alkyl group, halogeno C<sub>1</sub>-C<sub>6</sub> alkyl group, C<sub>1</sub>-C<sub>6</sub> alkoxy group, C<sub>1</sub>-C<sub>6</sub> alkylthio group, C<sub>1</sub>-C<sub>3</sub> alkylenedioxy group, C<sub>1</sub>-C<sub>7</sub> alkanoyl group, C<sub>2</sub>-C<sub>7</sub> alkyloxycarbonyl group, amino group, C<sub>1</sub>-C<sub>7</sub> alkanoylamino group, hydroxyl group, mercapto group, cyano group, nitro group and carboxyl group.

20. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 18, wherein Arom is a phenyl group or a phenyl group substituted at from 1 to 3 positions by substituent(s) which may be the same or different selected from the substituent group  $\alpha$ ;

<Substituent group  $\alpha$ >

halogen atom, C<sub>1</sub>-C<sub>6</sub> alkyl group, halogeno C<sub>1</sub>-C<sub>6</sub> alkyl group, C<sub>1</sub>-C<sub>6</sub> alkoxy group, C<sub>1</sub>-C<sub>6</sub> alkylthio group, C<sub>1</sub>-C<sub>3</sub> alkylenedioxy group, C<sub>1</sub>-C<sub>7</sub> alkanoyl group, C<sub>2</sub>-C<sub>7</sub> alkyloxycarbonyl group, amino group, C<sub>1</sub>-C<sub>7</sub> alkanoylamino group, hydroxyl group, mercapto group, cyano group, nitro group and carboxyl group.

21. A compound or pharmacologically acceptable salt thereof according to any one of Claims 1 to 18, wherein Arom is a phenyl group substituted at one or two positions by

substituent(s) which may be the same or different selected from the substituent group  $\alpha 1$ , or a phenyl group substituted at three positions by halogen atoms;

<Substituent group  $\alpha 1$ >

halogen atom,  $C_1$ - $C_4$  alkyl group,  $C_1$ - $C_4$  alkyl group substituted by from 1 to 3 fluorine atoms,  $C_1$ - $C_4$  alkoxy group,  $C_1$ - $C_4$  alkylthio group, methylenedioxy group, ethylenedioxy group,  $C_1$ - $C_4$  alkanoyl group, cyano group and nitro group.

22. A compound or pharmacologically acceptable salt thereof according to any one of Claims 1 to 18, wherein Arom is a phenyl group substituted at one or two positions by substituent(s) which may be the same or different selected from the substituent group  $\alpha 2$ , or a phenyl group substituted at three positions by fluorine atoms or chlorine atoms;

<Substituent group  $\alpha 2$ >

fluorine atom, chlorine atom, methyl group, trifluoromethyl group, methoxy group, methylthio group, acetyl group, cyano group and nitro group.

23. A compound or pharmacologically acceptable salt thereof according to any one of Claims 1 to 18, wherein Arom is a phenyl group substituted at one or two positions by substituent(s) which may be the same or different selected from the substituent group  $\alpha 3$ , or a phenyl group substituted at three positions by fluorine atoms;

<Substituent group  $\alpha 3$ >

fluorine atom, chlorine atom, methylthio group, acetyl group, cyano group and nitro group.

24. A compound or pharmacologically acceptable salt thereof according to any one of Claims 1 to 18, wherein Arom is a phenyl group substituted at one or two positions by substituent(s) which may be the same or different selected from the substituent group  $\alpha 4$ , or a phenyl group substituted at three positions by fluorine atoms;

<Substituent group  $\alpha_4$ >

fluorine atom, chlorine atom, methylthio group and nitro group.

25. A compound or pharmacologically acceptable salt thereof according to any one of Claims 1 to 18, wherein Arom is a phenyl group substituted at one position by a fluorine atom, a chlorine atom or a nitro group, or a phenyl group substituted at two positions by fluorine atoms.

26. A compound or pharmacologically acceptable salt thereof according to any one of Claims 1 to 18, wherein Arom is a 4-fluorophenyl group, a 4-chlorophenyl group, a 4-nitrophenyl group or a 3,4-difluorophenyl group.

27. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 26, wherein A is a  $C_1$ - $C_4$  alkylene group.

28. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 26, wherein A is a methylene group or an ethylene group.

29. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 26, wherein A is an ethylene group.

30. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 29, wherein E is an oxygen atom or a single bond.

31. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 29, wherein E is an oxygen atom.

32. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 31, wherein  $X^2$  is an oxygen atom.

33. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 32, wherein the group of formula:  $R^1-C(=X^1)-X^2-$  is attached at the para-position.

34. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 32, wherein  $R^1$  is an amino group, a  $(C_1-C_6 \text{ alkyl})$ amino group or a  $di(C_1-C_6 \text{ alkyl})$ amino group.

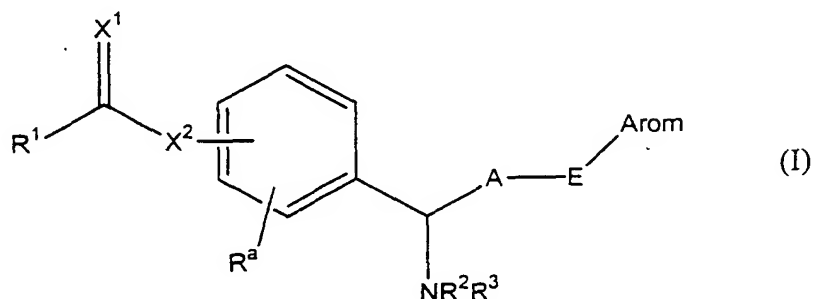
35. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 32, wherein  $R^1$  is an amino group, a  $(C_1-C_4 \text{ alkyl})$ amino group or a  $di(C_1-C_4 \text{ alkyl})$ amino group.

36. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 32, wherein  $R^1$  is a  $(C_1-C_4 \text{ alkyl})$ amino group or a  $di(C_1-C_4 \text{ alkyl})$ amino group.

37. A compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 32, wherein  $X^1$  is an oxygen atom.

38. The compound or pharmacologically acceptable salt or ester thereof according to Claim 1, wherein the compound is 4-[3-(4-nitrophenoxy)-1-methylaminopropyl]phenyl dimethcarbamate.

39. A compound of the formula (I):



wherein  $R^1$  represents a  $C_1$ - $C_6$  alkyl group, an amino group, a ( $C_1$ - $C_6$  alkyl)amino group, a di( $C_1$ - $C_6$  alkyl)amino group or a nitrogen-containing saturated heterocyclic group;

$R^2$  and  $R^3$  are the same or different and represent a hydrogen atom or a  $C_1$ - $C_6$  alkyl group;

Arom represents an unsubstituted aryl group, an aryl group substituted at from 1 to 3 positions by substituents, which are the same or different and are from a substituent group  $\alpha$ ; an unsubstituted heteroaryl group, or a heteroaryl group substituted at from 1 to 3 positions by substituent(s) which are the same or different and are from a substituent group  $\alpha$ ;

A represents a  $C_1$ - $C_6$  alkylene group;

E represents a single bond, an oxygen atom, a sulfur atom or a group of the formula  $-NR^4$ -, wherein  $R^4$  represents a hydrogen atom or a  $C_1$ - $C_7$  alkanoyl group;

$X^1$  and  $X^2$  are the same or different and represent an oxygen atom or a sulfur atom;

the substituent group  $\alpha$  being selected from the group consisting of a halogen atom,  $C_1$ - $C_6$  alkyl group, halogeno  $C_1$ - $C_6$  alkyl group,  $C_1$ - $C_6$  alkoxy group,  $C_1$ - $C_6$  alkylthio group,  $C_1$ - $C_3$  alkylenedioxy group,  $C_1$ - $C_7$  alkanoyl group,  $C_2$ - $C_7$  alkyloxycarbonyl group, amino group,  $C_1$ - $C_7$  alkanoylamino group, hydroxyl group, mercapto group, cyano group, nitro group and carboxyl group;

or a pharmacologically acceptable salt or ester thereof.

40. A pharmaceutical composition containing a pharmaceutically effective amount of a compound or pharmacologically acceptable salt or ester thereof according to any one of



Claims 1 to 39 in combination with a pharmaceutically acceptable carrier.

41. A method for inhibiting acetylcholinesterase and selective serotonin reuptake in a human comprising administering to said human a pharmaceutically effective amount of a compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 39.

42. A method for treating or preventing Alzheimer's disease, depression, Huntington's chorea, Pick's disease, tardive dyskinesia, compulsive disorders or panic disorders in a human comprising administering to said human a pharmaceutically effective amount of a compound or pharmacologically acceptable salt or ester thereof according to any one of Claims 1 to 39.

43. The method according to Claim 42, wherein the method is for treating or preventing Alzheimer's disease.

44. A method for inhibiting acetylcholinesterase and selective serotonin reuptake in a mammal comprising administering to a mammal a pharmaceutically effective amount of a compound or a pharmaceutically acceptable salt or ester thereof according to Claim 1.

45. A method for treating or preventing Alzheimer's disease, depression, Huntington's chorea, Pick's disease, tardive dyskinesia, compulsive disorders or panic disorders in a mammal comprising administering to a mammal a pharmaceutically

effective amount of a compound or a pharmacologically acceptable salt or ester thereof according to Claim 1.